

WHAT IS CLAIMED IS:

1. An ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a corrosion inhibitor is contained, and a phosphonium ion represented by the general formula (Formula 1) described below is contained:
 - 10 [Formula 1]
$$\begin{array}{c} \text{Ra} \quad \text{X}^- \\ | \\ \text{Rb} - \text{P}^+ - \text{Rd} \\ | \\ \text{Rc} \end{array}$$
(wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group, a halogenated alkyl group and a substituted or non-substituted phenyl group, and X⁻ represents a counter ion).
 - 15 2. An ink for ink jet recording according to claim 1, wherein the counter ion is a hydroxyl ion.
 - 20 3. An ink for ink jet recording according to claim 1, wherein pH of the ink is within a range of 7 to 10.

4. An ink for ink jet recording according to claim 1, used for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 5 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

5. An ink for ink jet recording according to claim 1, used for an ink jet printer in which at least a portion of the member of 10 a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

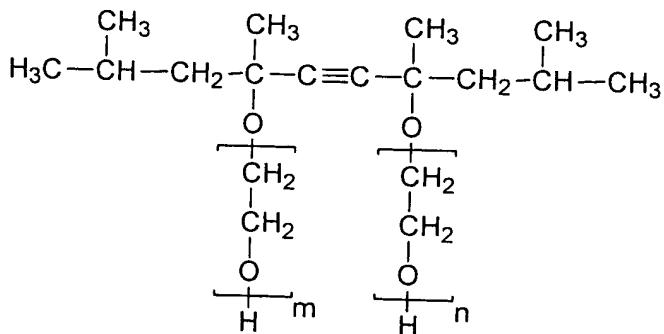
15 6. An ink for ink jet recording according to claim 1, used for an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a 20 zirconium film, a titanium oxide film, and a silicon nitride film.

7. An ink for ink jet recording according to claim 1, used for an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime 25 glass, a photosensitive glass, single crystal silicon, polysilicon,

a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

8. An ink for ink jet recording used for an ink jet printer
5 in which at least a portion of a member being in contact with the
ink is formed by any one of a borosilicate glass, a soda lime glass,
a photosensitive glass, single crystal silicon, polysilicon, a
silicon oxide film, a titanium nitride film, a zirconium film, a
titanium oxide film, and a silicon nitride film, wherein an acetylene
10 compound represented by the general formula (Formula 2) described
below is contained:

[Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20).

15

9. An ink for ink jet recording according to claim 8, wherein
pH of the ink is within a range of 7 to 10.

10. An ink for ink jet recording according to claim 8, used for
20 an ink jet printer in which at least a portion of a liquid chamber
member is formed by any one of a borosilicate glass, a soda lime

glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

5 11. An ink for ink jet recording according to claim 8, used for an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

10 12. An ink for ink jet recording according to claim 8, used for an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

15 13. An ink for ink jet recording according to claim 8, used for an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

14. An ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a 5 silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic compound is contained.

15. An ink for ink jet recording according to claim 14, wherein 10 the cationic compound is a cationic resin and a cationic surfactant.

16. An ink for ink jet recording according to claim 14, wherein pH of the ink is within a range of 7 to 10.

15 17. An ink for ink jet recording according to claim 14, used for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, 20 a titanium oxide film, and a silicon nitride film.

18. An ink for ink jet recording according to claim 14, used for an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate 25 glass, a soda lime glass, a photosensitive glass, single crystal

silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

19. An ink for ink jet recording according to claim 14, used
5 for an ink jet printer in which at least a portion of the member
of a vibration plate is formed by any one of a borosilicate glass,
a soda lime glass, a photosensitive glass, single crystal silicon,
polysilicon, a silicon oxide film, a titanium nitride film, a
zirconium film, a titanium oxide film, and a silicon nitride film.
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20. An ink for ink jet recording according to claim 14, used
for an ink jet printer in which at least a portion of the member
of a nozzle is formed by any one of a borosilicate glass, a soda
lime glass, a photosensitive glass, single crystal silicon,
15 polysilicon, a silicon oxide film, a titanium nitride film, a
zirconium film, a titanium oxide film, and a silicon nitride film.

21. An ink for ink jet recording used for an ink jet printer
in which at least a portion of a member being in contact with the
20 ink is formed by any one of a borosilicate glass, a soda lime glass,
a photosensitive glass, single crystal silicon, polysilicon, a
silicon oxide film, a titanium nitride film, a zirconium film, a
titanium oxide film, and a silicon nitride film, wherein a cationic
coloring material is contained.

22. An ink for ink jet recording according to claim 21, wherein the cationic coloring material is a cationic dye, a cationic carbon black and a cationic pigment.

5 23. An ink for ink jet recording according to claim 21, wherein pH of the ink is within a range of 7 to 10.

24. An ink for ink jet recording according to claim 21, used for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

15 25. An ink for ink jet recording according to claim 21, used for an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, 20 a zirconium film, a titanium oxide film, and a silicon nitride film.

26. An ink for ink jet recording according to claim 21, used for an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, 25 a soda lime glass, a photosensitive glass, single crystal silicon,

polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

27. An ink for ink jet recording according to claim 21, used
5 for an ink jet printer in which at least a portion of the member
of a nozzle is formed by any one of a borosilicate glass, a soda
lime glass, a photosensitive glass, single crystal silicon,
polysilicon, a silicon oxide film, a titanium nitride film, a
zirconium film, a titanium oxide film, and a silicon nitride film.

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28. An ink for ink jet recording used for an ink jet printer
in which at least a portion of a member being in contact with the
ink is formed by any one of a borosilicate glass, a soda lime glass,
a photosensitive glass, single crystal silicon, polysilicon, a
15 silicon oxide film, a titanium nitride film, a zirconium film, a
titanium oxide film, and a silicon nitride film, wherein a coloring
material that is an inclusion compound included by a resin or a
colored resin fine particle colored with a coloring material is
contained.

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29. An ink for ink jet recording according to claim 28, wherein
the coloring material is a dye and/or a pigment.

30. An ink for ink jet recording according to claim 28, wherein
25 pH of the ink is within a range of 7 to 10.

31. An ink for ink jet recording according to claim 28, used for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 5 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

32. An ink for ink jet recording according to claim 28, used for an ink jet printer in which at least a portion of the member 10 of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

15 33. An ink for ink jet recording according to claim 28, used for an ink jet printer in which at least a portion of the member 20 of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

34. An ink for ink jet recording according to claim 28, used for an ink jet printer in which at least a portion of the member 25 of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon,

polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

35. An ink for ink jet recording used for an ink jet printer
5 in which at least a portion of a member being in contact with the
ink is formed by any one of a borosilicate glass, a soda lime glass,
a photosensitive glass, single crystal silicon, polysilicon, a
silicon oxide film, a titanium nitride film, a zirconium film, a
titanium oxide film, and a silicon nitride film, wherein the total
10 of the content of alkali metals in the ink is 700ppm or less, and
30% or more of a phosphonium ion represented by the above-mentioned
general formula (Formula 1) based on the equivalent of an anionic
compound which is contained in the ink is contained.

15 36. An ink for ink jet recording according to claim 35, wherein
pH of the ink is within a range of 7 to 10.

37. An ink for ink jet recording according to claim 35, used
for an ink jet printer in which at least a portion of a liquid chamber
20 member is formed by any one of a borosilicate glass, a soda lime
glass, a photosensitive glass, single crystal silicon, polysilicon,
a silicon oxide film, a titanium nitride film, a zirconium film,
a titanium oxide film, and a silicon nitride film.

38. An ink for ink jet recording according to claim 35, used for an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

39. An ink for ink jet recording according to claim 35, used for an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

15 40. An ink for ink jet recording according to claim 35, used for an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

20 41. An ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a

silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of an acetylene compound represented by the 5 above-mentioned general formula (Formula 2) based on the equivalent of an anionic compound which is contained in the ink is contained.

42. An ink for ink jet recording according to claim 41, wherein pH of the ink is within a range of 7 to 10.

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43. An ink for ink jet recording according to claim 41, used for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 15 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

44. An ink for ink jet recording according to claim 41, used for an ink jet printer in which at least a portion of the member 20 of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

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45. An ink for ink jet recording according to claim 41, used for an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 5 polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

46. An ink for ink jet recording according to claim 41, used for an ink jet printer in which at least a portion of the member 10 of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

15 47. An ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a 20 titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic compound based on the equivalent of an anionic compound which is contained in the ink is contained.

48. An ink for ink jet recording according to claim 47, wherein pH of the ink is within a range of 7 to 10.

49. An ink for ink jet recording according to claim 47, used 5 for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

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50. An ink for ink jet recording according to claim 47, used for an ink jet printer in which at least a portion of the member 15 of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

51. An ink for ink jet recording according to claim 47, used for an ink jet printer in which at least a portion of the member 20 of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

52. An ink for ink jet recording according to claim 47, used for an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 5 polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

53. An ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the 10 ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total 15 of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic coloring material based on the equivalent of an anionic compound which is contained in the ink is contained.

54. An ink for ink jet recording according to claim 53, wherein pH of the ink is within a range of 7 to 10.

20

55. An ink for ink jet recording according to claim 53, used for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 25 a silicon oxide film, a titanium nitride film, a zirconium film,

a titanium oxide film, and a silicon nitride film.

56. An ink for ink jet recording according to claim 53, used for an ink jet printer in which at least a portion of the member 5 of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

10 57. An ink for ink jet recording according to claim 53, used for an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a 15 zirconium film, a titanium oxide film, and a silicon nitride film.

58. An ink for ink jet recording according to claim 53, used for an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda 20 lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

59. An ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by a glass, wherein the total of the content of alkali metals in the ink is 700ppm or less.

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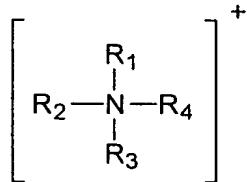
60. An ink for ink jet recording according to claim 59, used for an ink jet printer in which at least a portion of a member being in contact with the ink is further formed by silicon or silicon oxide.

10

61. An ink for ink jet recording according to claim 59, wherein 30% or more of a quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A described below, based on the equivalent of an anionic compound which is contained in the ink

15 is contained:

[Formula A]



(wherein in the formula A, R1 to R4 represent a hydrogen atom, an alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group, and

20 a halogenated alkyl group).

62. An ink for ink jet recording according to claim 59, used for an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 5 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

63. An ink for ink jet recording according to claim 59, used for an ink jet printer in which at least a portion of the member 10 of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

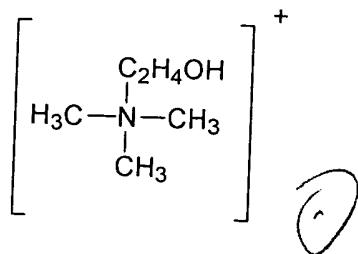
15 64. An ink for ink jet recording according to claim 59, used for an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a 20 zirconium film, a titanium oxide film, and a silicon nitride film.

65. An ink for ink jet recording according to claim 59, used for an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda 25 lime glass, a photosensitive glass, single crystal silicon,

polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film.

66. An ink for ink jet recording according to claim 61, wherein
5 at least a portion of the quaternary ammonium ion and an alkanolamino
ion which are indicated by the formula A is corrin indicated by
the formula B described below:

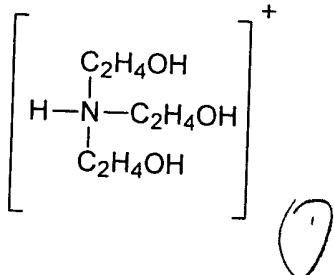
[Formula B]



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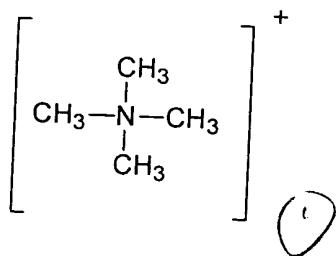
67. An ink for ink jet recording according to claim 61, wherein
at least a portion of the quaternary ammonium ion and an alkanolamino
ion which are indicated by the formula A is triethanol amine indicated
by the formula C described below:

15 [Formula C]



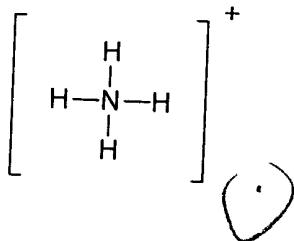
68. An ink for ink jet recording according to claim 61, wherein at least a portion of the quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A is tetramethylammonium indicated by the formula D described below:

5 [Formula D]



69. An ink for ink jet recording according to claim 61, wherein at least a portion of the quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A is an ammonium ion indicated by the formula E described below:

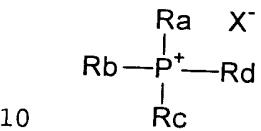
[Formula E]



15 70. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, 20 a titanium oxide film, and a silicon nitride film, and the ink for

ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film,
5 a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a corrosion inhibitor is contained, and a phosphonium ion represented by the general formula (Formula 1) described below is contained:

[Formula 1]



10 (wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group, a halogenated alkyl group and a substituted or non-substituted phenyl group, and X⁻ represents a counter ion).

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71. An ink jet recording method according to claim 70, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 20 laser processing or drilling.

72. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime

glass, a photosensitive glass, single crystal silicon, polysilicon

a silicon oxide film, a titanium nitride film, a zirconium film

a titanium oxide film, and a silicon nitride film, and the like.

ink jet recording used for an ink jet printer is as follows:

5 a portion of a member being in contact with the ink is formed by

any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, or the like.

single crystal silicon, polysilicon, a silicon oxide film, and a nitride film.

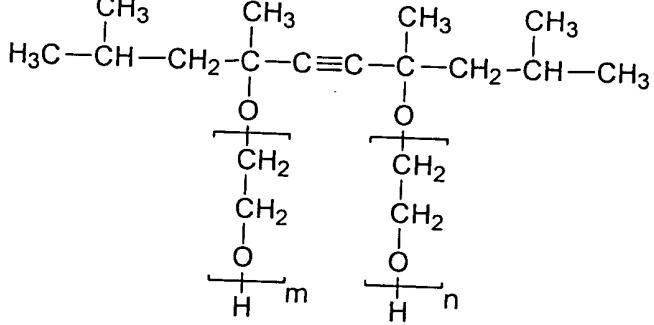
a titanium nitride film, a zirconium film, a titanium oxide film,

and a silicon nitride film, wherein an acetylene compound represented by the formula:

by the general formula (Formula 2) described below is contained.

[Formula 23] and below is contained:

[Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20).

15 73. An ink jet recording method according to claim 72, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

74. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 5 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive 10 glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic compound is contained.

75. An ink jet recording method according to claim 74, using 15 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20 76. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, 25 a titanium oxide film, and a silicon nitride film, and the ink for

ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film,
5 a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic coloring material is contained.

77. An ink jet recording method according to claim 76, using
10 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

15 78. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film,
20 a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film,
25 a titanium nitride film, a zirconium film, a titanium oxide film,

and a silicon nitride film, wherein a coloring material that is an inclusion compound included by a resin or a colored resin fine particle colored with a coloring material is contained.

5 79. An ink jet recording method according to claim 78, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

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80. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 15 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive 20 glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a phosphonium ion represented by the above-mentioned general formula 25 (Formula 1) based on the equivalent of an anionic compound which

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is contained in the ink is contained.

81. An ink jet recording method according to claim 80, using an ink jet printer in which a groove is formed by treating the liquid 5 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

82. An ink jet recording method carrying out recording using 10 an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for 15 ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, 20 and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of an acetylene compound represented by the above-mentioned general formula (Formula 2) based on the equivalent of an anionic compound which is contained in the ink is contained.

83. An ink jet recording method according to claim 82, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

84. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime 10 glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by 15 any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a 20 cationic compound based on the equivalent of an anionic compound which is contained in the ink is contained.

85. An ink jet recording method according to claim 84, using an ink jet printer in which a groove is formed by treating the liquid 25 chamber member, the fluid resistance part, the vibration plate or

the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

86. An ink jet recording method carrying out recording using
5 an ink jet printer in which at least a portion of a liquid chamber
member is formed by any one of a borosilicate glass, a soda lime
glass, a photosensitive glass, single crystal silicon, polysilicon,
a silicon oxide film, a titanium nitride film, a zirconium film,
a titanium oxide film, and a silicon nitride film, and the ink for
10 ink jet recording used for an ink jet printer in which at least
a portion of a member being in contact with the ink is formed by
any one of a borosilicate glass, a soda lime glass, a photosensitive
glass, single crystal silicon, polysilicon, a silicon oxide film,
a titanium nitride film, a zirconium film, a titanium oxide film,
15 and a silicon nitride film, wherein the total of the content of
alkali metals in the ink is 700ppm or less, and 30% or more of a
cationic coloring material based on the equivalent of an anionic
compound which is contained in the ink is contained.

20 87. An ink jet recording method according to claim 86, using
an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.

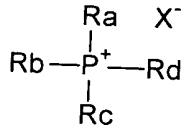
88. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of a liquid chamber member is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 5 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by a glass, wherein the total of the content of alkali metals in the 10 ink is 700ppm or less.

89. An ink jet recording method according to claim 88, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or 15 the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

90. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of 20 a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink 25

is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a corrosion 5 inhibitor is contained, and a phosphonium ion represented by the general formula (Formula 1) described below is contained:

[Formula 1]



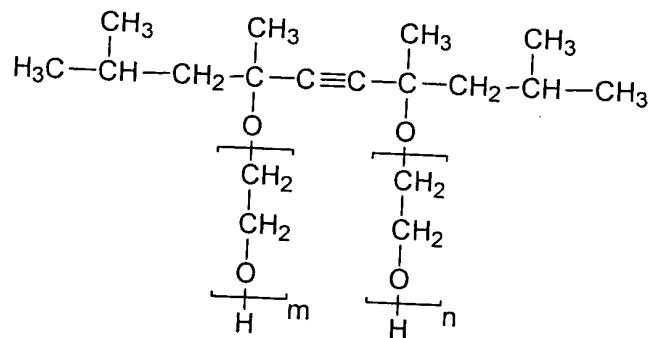
(wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, 10 or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group, a halogenated alkyl group and a substituted or non-substituted phenyl group, and X⁻ represents a counter ion).

91. An ink jet recording method according to claim 90, using 15 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20 92. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a

zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 5 a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein an acetylene compound represented by the general formula (Formula 2) described below is contained:

10 [Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20).

93. An ink jet recording method according to claim 92, using 15 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

94. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 5 polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 10 a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic compound is contained.

15 95. An ink jet recording method according to claim 94, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20

96. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 25 polysilicon, a silicon oxide film, a titanium nitride film, a

zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 5 a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic coloring material is contained.

10 97. An ink jet recording method according to claim 96, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

15 98. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 20 polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 25 a photosensitive glass, single crystal silicon, polysilicon, a

silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a coloring material that is an inclusion compound included by a resin or a colored resin fine particle colored with a coloring material is
5 contained.

99. An ink jet recording method according to claim 98, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or
10 the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

100. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of
15 a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in
20 which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total
25 of the content of alkali metals in the ink is 700ppm or less, and

30% or more of a phosphonium ion represented by the above-mentioned general formula (Formula 1) based on the equivalent of an anionic compound which is contained in the ink is contained.

5 101. An ink jet recording method according to claim 100, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

10

102. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of an acetylene compound represented by the above-mentioned general formula (Formula 2) based on the equivalent

of an anionic compound which is contained in the ink is contained.

103. An ink jet recording method according to claim 102, using
an ink jet printer in which a groove is formed by treating the liquid
5 chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.

104. An ink jet recording method carrying out recording using
10 an ink jet printer in which at least a portion of the member of
a fluid resistance part is formed by any one of a borosilicate glass,
a soda lime glass, a photosensitive glass, single crystal silicon,
polysilicon, a silicon oxide film, a titanium nitride film, a
zirconium film, a titanium oxide film, and a silicon nitride film,
15 and the ink for ink jet recording used for an ink jet printer in
which at least a portion of a member being in contact with the ink
is formed by any one of a borosilicate glass, a soda lime glass,
a photosensitive glass, single crystal silicon, polysilicon, a
silicon oxide film, a titanium nitride film, a zirconium film, a
20 titanium oxide film, and a silicon nitride film, wherein the total
of the content of alkali metals in the ink is 700ppm or less, and
30% or more of a cationic compound based on the equivalent of an
anionic compound which is contained in the ink is contained.

105. An ink jet recording method according to claim 104, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

106. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a fluid resistance part is formed by any one of a borosilicate glass, 10 a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink 15 is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 20 30% or more of a cationic coloring material based on the equivalent of an anionic compound which is contained in the ink is contained.

107. An ink jet recording method according to claim 106, using an ink jet printer in which a groove is formed by treating the liquid 25 chamber member, the fluid resistance part, the vibration plate or

the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

108. An ink jet recording method carrying out recording using
5 an ink jet printer in which at least a portion of the member of
a fluid resistance part is formed by any one of a borosilicate glass,
a soda lime glass, a photosensitive glass, single crystal silicon,
polysilicon, a silicon oxide film, a titanium nitride film, a
zirconium film, a titanium oxide film, and a silicon nitride film,
10 and the ink for ink jet recording used for an ink jet printer in
which at least a portion of a member being in contact with the ink
is formed by a glass, wherein the total of the content of alkali
metals in the ink is 700ppm or less.

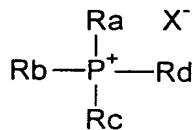
15 109. An ink jet recording method according to claim 108, using
an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.

20

110. An ink jet recording method carrying out recording using
an ink jet printer in which at least a portion of the member of
a vibration plate is formed by any one of a borosilicate glass,
a soda lime glass, a photosensitive glass, single crystal silicon,
25 polysilicon, a silicon oxide film, a titanium nitride film, a

zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 5 a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a corrosion inhibitor is contained, and a phosphonium ion represented by the general formula (Formula 1) described below is contained:

10 [Formula 1]

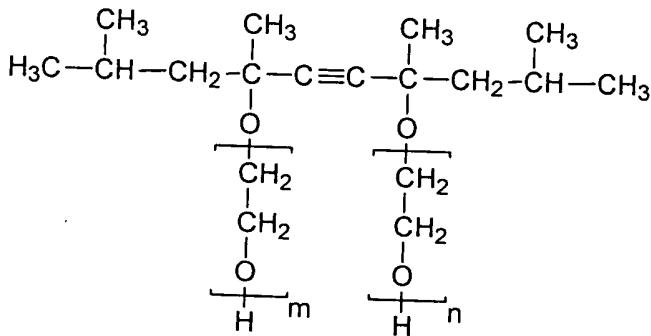


(wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group, a halogenated alkyl group and a substituted or non-substituted 15 phenyl group, and X⁻ represents a counter ion).

111. An ink jet recording method according to claim 110, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or 20 the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

112. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 5 polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 10 a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein an acetylene compound represented by the general formula (Formula 2) described below is contained:

15 [Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20).

113. An ink jet recording method according to claim 112, using 20 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or

the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

114. An ink jet recording method carrying out recording using
5 an ink jet printer in which at least a portion of the member of
a vibration plate is formed by any one of a borosilicate glass,
a soda lime glass, a photosensitive glass, single crystal silicon,
polysilicon, a silicon oxide film, a titanium nitride film, a
zirconium film, a titanium oxide film, and a silicon nitride film,
10 and the ink for ink jet recording used for an ink jet printer in
which at least a portion of a member being in contact with the ink
is formed by any one of a borosilicate glass, a soda lime glass,
a photosensitive glass, single crystal silicon, polysilicon, a
silicon oxide film, a titanium nitride film, a zirconium film, a
15 titanium oxide film, and a silicon nitride film, wherein a cationic
compound is contained.

115. An ink jet recording method according to claim 114, using
an ink jet printer in which a groove is formed by treating the liquid
20 chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.

116. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 5 polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 10 a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic coloring material is contained.

15 117. An ink jet recording method according to claim 116, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20

118. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 25 polysilicon, a silicon oxide film, a titanium nitride film, a

zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 5 a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a coloring material that is an inclusion compound included by a resin or a colored resin fine particle colored with a coloring material is 10 contained.

119. An ink jet recording method according to claim 118, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or 15 the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

120. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of 20 a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in 25 which at least a portion of a member being in contact with the ink

is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total
5 of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a phosphonium ion represented by the above-mentioned general formula (Formula 1) based on the equivalent of an anionic compound which is contained in the ink is contained.

10 121. An ink jet recording method according to claim 120, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

15
122. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, 20 polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, 25 a photosensitive glass, single crystal silicon, polysilicon, a

silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of an acetylene compound represented by the 5 above-mentioned general formula (Formula 2) based on the equivalent of an anionic compound which is contained in the ink is contained.

123. An ink jet recording method according to claim 122, using an ink jet printer in which a groove is formed by treating the liquid 10 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

124. An ink jet recording method carrying out recording using 15 an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, 20 and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a 25 titanium oxide film, and a silicon nitride film, wherein the total

of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic compound based on the equivalent of an anionic compound which is contained in the ink is contained.

5 125. An ink jet recording method according to claim 124, using
an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.

10

126. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic coloring material based on the equivalent of an anionic compound which is contained in the ink is contained.

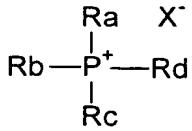
127. An ink jet recording method according to claim 126, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

128. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a vibration plate is formed by any one of a borosilicate glass, 10 a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink 15 is formed by a glass, wherein the total of the content of alkali metals in the ink is 700ppm or less.

129. An ink jet recording method according to claim 128, using an ink jet printer in which a groove is formed by treating the liquid 20 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

130. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 5 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive 10 glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a corrosion inhibitor is contained, and a phosphonium ion represented by the general formula (Formula 1) described below is contained:

15 [Formula 1]



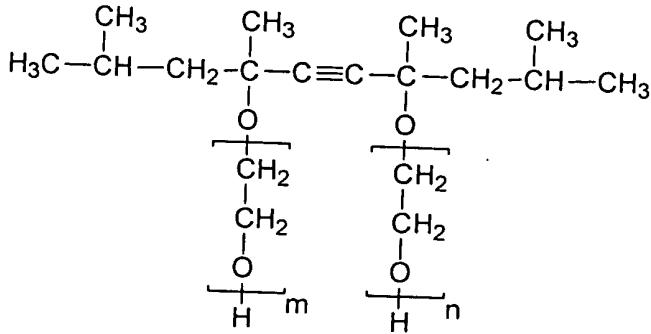
(wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group, a halogenated alkyl group and a substituted or non-substituted 20 phenyl group, and X⁻ represents a counter ion).

131. An ink jet recording method according to claim 130, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or

the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

132. An ink jet recording method carrying out recording using
5 an ink jet printer in which at least a portion of the member of
a nozzle is formed by any one of a borosilicate glass, a soda lime
glass, a photosensitive glass, single crystal silicon, polysilicon,
a silicon oxide film, a titanium nitride film, a zirconium film,
a titanium oxide film, and a silicon nitride film, and the ink for
10 ink jet recording used for an ink jet printer in which at least
a portion of a member being in contact with the ink is formed by
any one of a borosilicate glass, a soda lime glass, a photosensitive
glass, single crystal silicon, polysilicon, a silicon oxide film,
a titanium nitride film, a zirconium film, a titanium oxide film,
15 and a silicon nitride film, wherein an acetylene compound represented
by the general formula (Formula 2) described below is contained:

[Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20).

133. An ink jet recording method according to claim 132, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

134. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime 10 glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by 15 any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic compound is contained.

20 135. An ink jet recording method according to claim 134, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

136. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 5 a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive 10 glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic coloring material is contained.

15 137. An ink jet recording method according to claim 136, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20

138. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, 25 a silicon oxide film, a titanium nitride film, a zirconium film,

a titanium oxide film, and a silicon nitride film, and the ink for
ink jet recording used for an ink jet printer in which at least
a portion of a member being in contact with the ink is formed by
any one of a borosilicate glass, a soda lime glass, a photosensitive
5 glass, single crystal silicon, polysilicon, a silicon oxide film,
a titanium nitride film, a zirconium film, a titanium oxide film,
and a silicon nitride film, wherein a coloring material that is
an inclusion compound included by a resin or a colored resin fine
particle colored with a coloring material is contained.

10

139. An ink jet recording method according to claim 138, using
an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
15 laser processing or drilling.

140. An ink jet recording method carrying out recording using
an ink jet printer in which at least a portion of the member of
a nozzle is formed by any one of a borosilicate glass, a soda lime
20 glass, a photosensitive glass, single crystal silicon, polysilicon,
a silicon oxide film, a titanium nitride film, a zirconium film,
a titanium oxide film, and a silicon nitride film, and the ink for
ink jet recording used for an ink jet printer in which at least
a portion of a member being in contact with the ink is formed by
25 any one of a borosilicate glass, a soda lime glass, a photosensitive

glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a 5 phosphonium ion represented by the above-mentioned general formula (Formula 1) based on the equivalent of an anionic compound which is contained in the ink is contained.

141. An ink jet recording method according to claim 140, using 10 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

142. An ink jet recording method carrying out recording using 15 an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, 20 a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, 25 a titanium nitride film, a zirconium film, a titanium oxide film,

and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of an acetylene compound represented by the above-mentioned general formula (Formula 2) based on the equivalent of an anionic compound 5 which is contained in the ink is contained.

143. An ink jet recording method according to claim 142, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or 10 the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

144. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of 15 a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least 20 a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of 25 alkali metals in the ink is 700ppm or less, and 30% or more of a

cationic compound based on the equivalent of an anionic compound which is contained in the ink is contained.

145. An ink jet recording method according to claim 144, using
5 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

10 146. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film,
15 a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film,
20 a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic coloring material based on the equivalent of an anionic compound which is contained in the ink is contained.

147. An ink jet recording method according to claim 146, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

148. An ink jet recording method carrying out recording using an ink jet printer in which at least a portion of the member of a nozzle is formed by any one of a borosilicate glass, a soda lime 10 glass, a photosensitive glass, single crystals silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, and the ink for ink jet recording used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by 15 a glass, wherein the total of the content of alkali metals in the ink is 700ppm or less.

149. An ink jet recording method according to claim 148, using an ink jet printer in which a groove is formed by treating the liquid 20 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

150. An ink jet recording method using an ink jet printer in which at least a portion of a member being in contact with the ink is formed by a glass, and the ink for ink jet recording in which the total of the content of alkali metals in the ink is 700ppm or less.

5

151. An ink jet recording method according to claim 150, using an ink jet printer in which at least a portion of a member being in contact with the ink is further formed by silicon or silicon oxide.

10

152. An ink jet recording method according to claim 150, wherein 30% or more of a quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A based on the equivalent of an anionic compound which is contained in the ink is contained.

15

153. An ink jet recording method according to claim 152, wherein at least a portion of the quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A is corrin indicated by the formula B.

20

154. An ink jet recording method according to claim 152, wherein at least a portion of the quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A is triethanol amine indicated by the formula C.

25

155. An ink jet recording method according to claim 152, wherein at least a portion of the quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A is tetramethylammonium indicated by the formula D.

5

156. An ink jet recording method according to claim 152, wherein at least a portion of the quaternary ammonium ion and an alkanolamino ion which are indicated by the formula A is an ammonium ion indicated by the formula E.

10

157. An ink jet recording method according to claim 150, using an ink jet printer in which the liquid chamber member composed of a glass or single crystal silicon.

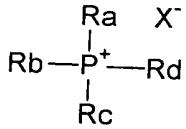
15 158. An ink jet recording method according to claim 150, using an ink jet printer in which the fluid resistance is composed of a glass or single crystal silicon.

20 159. An ink jet recording method according to claim 150, using an ink jet printer in which the vibration plate is composed of a glass or single crystal silicon.

25 160. An ink jet recording method according to claim 150, using an ink jet printer in which the nozzle is composed of a glass or single crystal silicon.

161. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is
5 formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a corrosion inhibitor is contained, and a phosphonium ion represented by the
10 general formula (Formula 1) described below is contained:

[Formula 1]

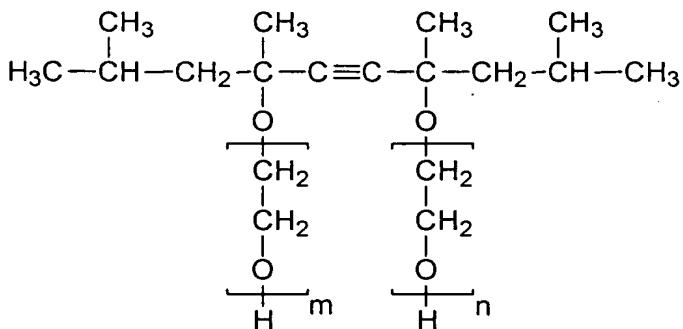


(wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group, a halogenated alkyl group and a substituted or non-substituted phenyl group, and X⁻ represents a counter ion).
15

162. An ink jet recording method according to claim 161, using an ink jet printer in which a groove is formed by treating the liquid
20 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

163. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is
5 formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein an acetylene compound represented by the general formula (Formula 2) described
10 below is contained:

[Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20).

164. An ink jet recording method according to claim 163, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

165. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is 5 formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic compound is contained.

10

166. An ink jet recording method according to claim 165, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 15 laser processing or drilling.

167. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which 20 at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic 25 coloring material is contained.

168. An ink jet recording method according to claim 167, using
an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
5 laser processing or drilling.

169. A recording liquid cartridge equipped with a recording liquid
storing part which stores a recording liquid, wherein the recording
liquid is a recording liquid used for an ink jet printer in which
10 at least a portion of a member being in contact with the ink is
formed by any one of a borosilicate glass, a soda lime glass, a
photosensitive glass, single crystal silicon, polysilicon, a
silicon oxide film, a titanium nitride film, a zirconium film, a
titanium oxide film, and a silicon nitride film, wherein a coloring
15 material that is an inclusion compound included by a resin or a
colored resin fine particle colored with a coloring material is
contained.

170. An ink jet recording method according to claim 169, using
20 an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.

171. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is
5 formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and
10 30% or more of a phosphonium ion represented by the above-mentioned general formula (Formula 1) based on the equivalent of an anionic compound which is contained in the ink is contained.

172. An ink jet recording method according to claim 171, using
15 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20 173. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a
25 photosensitive glass, single crystal silicon, polysilicon, a

silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of an acetylene compound represented by the 5 above-mentioned general formula (Formula 2) based on the equivalent of an anionic compound which is contained in the ink is contained.

174. An ink jet recording method according to claim 173, using an ink jet printer in which a groove is formed by treating the liquid 10 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

175. A recording liquid cartridge equipped with a recording liquid 15 storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a 20 silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic compound based on the equivalent of an anionic compound which is contained in the ink is contained.

176. An ink jet recording method according to claim 175, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

177. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which 10 at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total 15 of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic coloring material based on the equivalent of an anionic compound which is contained in the ink is contained.

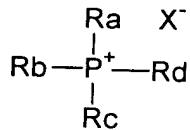
178. An ink jet recording method according to claim 177, using 20 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

179. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is 5 formed by a glass, wherein the total of the content of alkali metals in the ink is 700ppm or less.

180. An ink jet recording method according to claim 179, using an ink jet printer in which a groove is formed by treating the liquid 10 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

181. A recording liquid cartridge equipped with a recording liquid 15 storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a 20 photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a corrosion inhibitor is contained, and a phosphonium ion represented by the general formula (Formula 1) described below is contained:

[Formula 1]



(wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl

5 group, a halogenated alkyl group and a substituted or non-substituted phenyl group, and X⁻ represents a counter ion).

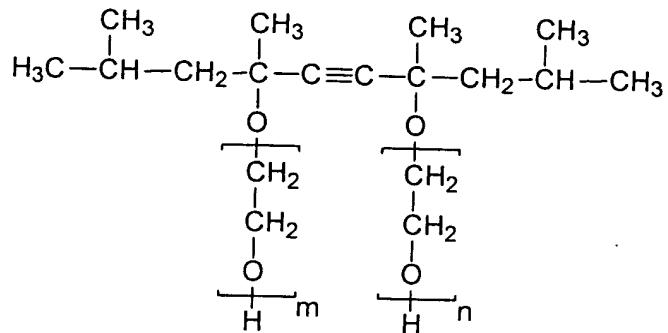
182. An ink jet recording method according to claim 181, using an ink jet printer in which a groove is formed by treating the liquid

10 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

183. A recording liquid cartridge equipped with a recording liquid

15 storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a 20 photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein an acetylene compound represented by the general formula (Formula 2) described below is contained:

[Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20)

5 184. An ink jet recording method according to claim 183, using
an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.

10

185. A recording liquid cartridge equipped with a recording liquid
storing part which stores a recording liquid, and a head part for
discharging the drops of recording liquid, wherein the recording
liquid is a recording liquid used for an ink jet printer in which
15 at least a portion of a member being in contact with the ink is
formed by any one of a borosilicate glass, a soda lime glass, a
photosensitive glass, single crystal silicon, polysilicon, a
silicon oxide film, a titanium nitride film, a zirconium film, a
titanium oxide film, and a silicon nitride film, wherein a cationic
20 compound is contained.

186. An ink jet recording method according to claim 185, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

187. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording 10 liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a 15 titanium oxide film, and a silicon nitride film, wherein a cationic coloring material is contained.

188. An ink jet recording method according to claim 187, using an ink jet printer in which a groove is formed by treating the liquid 20 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

189. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which
5 at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a coloring
10 material that is an inclusion compound included by a resin or a colored resin fine particle colored with a coloring material is contained.

190. An ink jet recording method according to claim 189, using
15 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20 191. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which
at least a portion of a member being in contact with the ink is
25 formed by any one of a borosilicate glass, a soda lime glass, a

photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and

5 30% or more of a phosphonium ion represented by the above-mentioned general formula (Formula 1) based on the equivalent of an anionic compound which is contained in the ink is contained.

192. An ink jet recording method according to claim 191, using

10 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

15 193. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is

20 formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and

25 30% or more of an acetylene compound represented by the

above-mentioned general formula (Formula 2) based on the equivalent of an anionic compound which is contained in the ink is contained.

194. An ink jet recording method according to claim 193, using
5 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

10 195. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is
15 formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and
20 30% or more of a cationic compound based on the equivalent of an anionic compound which is contained in the ink is contained.

196. An ink jet recording method according to claim 195, using an ink jet printer in which a groove is formed by treating the liquid
25 chamber member, the fluid resistance part, the vibration plate or

the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

197. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic coloring material based on the equivalent of an anionic compound which is contained in the ink is contained.

198. An ink jet recording method according to claim 197, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

199. A recording liquid cartridge equipped with a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording

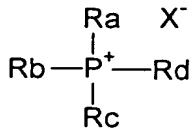
liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by a glass, wherein the total of the content of alkali metals in the ink is 700ppm or less.

5

200. An ink jet recording method according to claim 199, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 10 laser processing or drilling.

201. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, 15 a zirconium film, a titanium oxide film, and a silicon nitride film, 20 wherein a corrosion inhibitor is contained, and a phosphonium ion represented by the general formula (Formula 1) described below is contained:

[Formula 1]



(wherein in Formula 1, Ra, Rb, Rc and Rd represent a linear, branched, or cyclic alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl

5 group, a halogenated alkyl group and a substituted or non-substituted phenyl group, and X⁻ represents a counter ion).

202. An ink jet recording method according to claim 201, using an ink jet printer in which a groove is formed by treating the liquid

10 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

203. An inkjet recording apparatus equipped with a recording

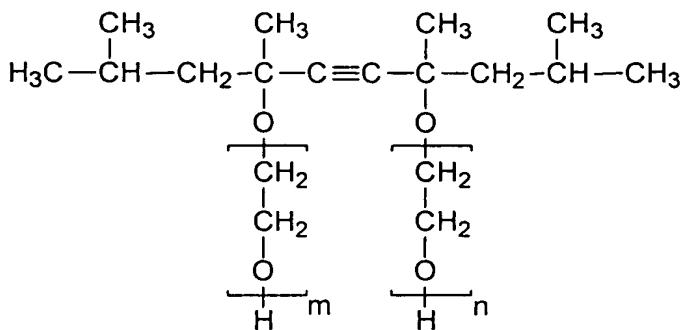
15 liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member

being in contact with the ink is formed by any one of a borosilicate

20 glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein an acetylene compound represented by the general formula

(Formula 2) described below is contained:

[Formula 2]



(wherein in the formula, m and n represent an integer of 0 to 20).

5 204. An ink jet recording method according to claim 203, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

10 205. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic compound is contained.

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206. An ink jet recording method according to claim 205, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

207. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of 10 recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titaniumnitride film, 15 a zirconium film, a titanium oxide film, and a silicon nitride film, wherein a cationic coloring material is contained.

208. An ink jet recording method according to claim 207, using an ink jet printer in which a groove is formed by treating the liquid 20 chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

209. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid
5 used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film,
10 wherein a coloring material that is an inclusion compound included by a resin or a colored resin fine particle colored with a coloring material is contained.

210. An ink jet recording method according to claim 209, using
15 an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

20 211. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member
25 being in contact with the ink is formed by any one of a borosilicate

glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is

5 700ppm or less, and 30% or more of a phosphonium ion represented by the above-mentioned general formula (Formula 1) based on the equivalent of an anionic compound which is contained in the ink is contained.

10 212. An ink jet recording method according to claim 211, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

15

213. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film,

20 25 wherein the total of the content of alkali metals in the ink is

700ppm or less, and 30% or more of an acetylene compound represented by the above-mentioned general formula (Formula 2) based on the equivalent of an anionic compound which is contained in the ink is contained.

5

214. An ink jet recording method according to claim 213, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer laser processing or drilling.

215. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, a zirconium film, a titanium oxide film, and a silicon nitride film, wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic compound based on the equivalent of an anionic compound which is contained in the ink is contained.

25

216. An ink jet recording method according to claim 215, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 5 laser processing or drilling.

217. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by any one of a borosilicate glass, a soda lime glass, a photosensitive glass, single crystal silicon, polysilicon, a silicon oxide film, a titanium nitride film, 10 a zirconium film, a titanium oxide film, and a silicon nitride film, 15 wherein the total of the content of alkali metals in the ink is 700ppm or less, and 30% or more of a cationic coloring material based on the equivalent of an anionic compound which is contained in the ink is contained.

20

218. An ink jet recording method according to claim 217, using an ink jet printer in which a groove is formed by treating the liquid chamber member, the fluid resistance part, the vibration plate or the nozzle by an etching treatment, a sandblast treatment, an excimer 25 laser processing or drilling.

219. An inkjet recording apparatus equipped with a recording liquid cartridge having a recording liquid storing part which stores a recording liquid, and a head part for discharging the drops of recording liquid, wherein the recording liquid is a recording liquid used for an ink jet printer in which at least a portion of a member being in contact with the ink is formed by a glass, wherein the total of the content of alkali metals in the ink is 700ppm or less.

220. An ink jet recording method according to claim 219, using
10 an ink jet printer in which a groove is formed by treating the liquid
chamber member, the fluid resistance part, the vibration plate or
the nozzle by an etching treatment, a sandblast treatment, an excimer
laser processing or drilling.